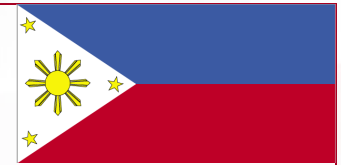


PHILIPPINES



Philippines: Environmental Issues

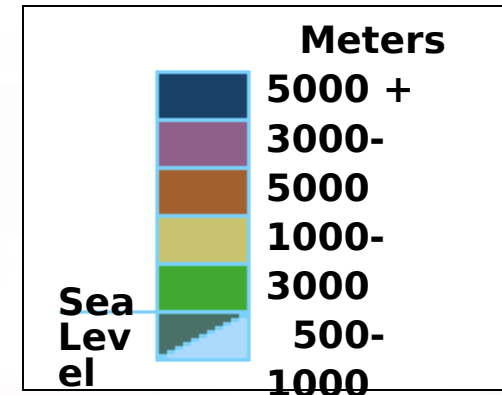
- Climate
- Topography

Tropical climate with average daily temperatures between 79° and 82° F

Terrain:

- Grouping of more than 7,100 islands
- Larger Islands contain mountains with strips of lowlands on the coasts
- Mountain elevations range from 3,900 to 9,800 feet
- Most islands contain active volcanoes

lowest point: Philippine Sea 0 m
highest point: Mount Apo 2,954 m



0-500
Depressio

Philippines: Environmental Issues

- Greatest short-term environmental health risks
 - Food contaminated with fecal pathogens
 - Water contaminated with raw sewage
 - Runoff containing fecal pathogens
 - Water contaminated with industrial pollutants
 - Localized air pollution
 - Heat and Humidity

Philippines: Environmental Issues

- Food Contamination
 - Food borne outbreaks are common due to lack of refrigeration, limited or no enforcement of sanitation standards, fecal pathogens in fertilizers from humans or animal waste and unsanitary food preparation techniques
 - 1996 - 2002 Department of Health banned the sale of seafood throughout various locations due to paralytic shellfish poisoning (Cooking does not destroy the toxin)
 - Chemical contamination of food is a concern only for long term exposures

Philippines: Environmental Issues

- Water Contamination

- In general water in the Philippines does not comply with US drinking water standards, specifically in the urban areas
- Domestic raw sewage, industrial wastes and fertilizers contribute to water contamination
- The Philippines Center for Environmental Concerns reports that 360 of the 419 rivers are polluted and 50 are considered to be biologically dead
- In mining areas Mercury levels are as high as 2.9 milligrams per liter. The US EPA maximum contaminant levels for mercury is .002 milligrams per liter
- Consumption of contaminated water may cause a variety of acute enteric infections

Philippines: Environmental Issues

- Air Contamination

- 70% from mobile sources
- 30% from industry and other sources
- Local transportation is by motorized Tricycles using a four stroke motor oil (Takal) made from engine waste products such as zinc, lead and dioxins
- Total Suspension particulate (TSP) mass concentrations are likely to be greater than 200 micrograms per cubic meter
World Health Organizations limit is 120 micrograms per cubic meter
- Short-term exposure to above level standards of air contamination presents a risk of transient acute respiratory symptoms such as coughing and wheezing

Philippines: Environmental Issues

- Soil Contamination

- Land fills inadequately designed
- Enforcement of waste disposal regulations is limited by corruption and lack of facilities
- Trash in rural areas is burned or thrown into watersheds
- Generally soil contamination is localized to specific areas surrounding industrial facilities and waste disposal sites
- Soil contamination usually presents a low health risk

Philippines: Environmental Issues

- Government continues to press forward with new environmental law, including Clean Air Act (CAA) and Clean Water Act (CWA)
 - Implementation of both these acts have been subject to debate
 - CWA has not been completely enacted
 - Enforcement of existing environmental laws is inconsistent and subject to corruption

Philippines: Diseases of Operational Importance

- High risk country
- Diseases of greatest risk
 - Food and water-borne: Diarrhea-bacterial, Typhoid/paratyphoid fever, Hepatitis A
 - Vector-borne: Malaria, Dengue fever
 - Animal contact: Rabies
 - Sexually transmitted: Hepatitis B
- Diseases of potential risk
 - Food and water-borne: Diarrhea-protozoal,
 - Water contact: Leptospirosis, Schistosomiasis
 - Sexually transmitted: Gonorrhea/chlamydia

Philippines: Diseases of Operational Importance

- Diarrhea

- Cause: drinking water or eating food that contains bacteria, virus, or protozoa
- Symptoms: frequent, runny stools
- Can be a symptom of campylobacter, *e. coli*, shigella, salmonella, hepatitis A, cholera, hepatitis E, giardia, or malaria
- If you consume local food or water, you will almost always get diarrhea.

Philippines: Diseases of Operational Importance

- Typhoid – Paratyphoid Fevers
 - Caused by bacteria obtained from contaminated food and water
 - Symptoms
 - Fever, severe headache, constipation, enlarged spleen, and rose spots on the trunk
 - Severe symptoms and death possible
 - Paratyphoid fever is milder
 - Countermeasures → Vaccination
 - Consume only food, water, and ice approved by the U.S. military



Philippines: Diseases of Operational Importance

- Hepatitis A
 - Cause - Putting something in the mouth that has been contaminated with the stool of a person with hepatitis A
 - Symptoms - jaundice, fatigue, abdominal pain, loss of appetite, nausea, diarrhea, fever
- Countermeasures
 - Hepatitis A Vaccine
 - Short-term protection from immune globulin
 - Wash your hands with soap and water after using the bathroom, and before preparing and eating food.

Philippines: Diseases of Operational Importance

- **Malaria**

- Caused by parasite obtained from mosquito bite
- Symptoms
 - Severe symptoms and death possible
 - Fever and flu-like illness, chills, headache, muscle aches, and tiredness
- Countermeasures
 - Take anti-malarial medications and prevent mosquito bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin treated bed net
- Malaria that is resistant to anti-malarial drugs can occur, it is critical that you prevent mosquitoes from biting you.

Philippines: Diseases of Operational Importance

- Dengue Fever

- Caused by virus obtained from day-biting mosquitoes
- Increased risk of infection in urban areas

- Symptoms

- Sudden onset, high fever, severe headaches, joint and muscle pain, nausea/vomiting, and rash.
- Illness may last up to 10 days, complete recovery may take 2-4 weeks
- Countermeasures
- Prevent mosquito bites
- Use the DOD Insect Repellent System

Philippines: Diseases of Operational Importance

- Rabies

- Caused by virus obtained from contact with saliva of infected animal
- Infected animal can be any warm-blooded animal

- Symptoms

- Rabies is 100% fatal once symptoms develop
- Fever, headache, tingling and discomfort at bite site
- Late symptoms include anxiety, confusion, agitation, delirium, abnormal behavior, hallucinations, and insomnia

- Countermeasures

- Avoid contact with domestic and wild animals
- If bitten or scratched, wash wound vigorously for 5 full minutes with soap and water, then seek medical care immediately for vaccine and other treatment.

Philippines: Diseases of Operational Importance

- **Hepatitis B**

- Cause – Hepatitis B virus that attacks the liver
- Transmitted by direct contact with the blood or body fluids of an infected person

- **Symptoms**

- jaundice, fatigue, abdominal pain, loss of appetite, nausea, vomiting, joint pain
- Countermeasures
- Hepatitis B vaccine
- Use latex condoms correctly every time you have sex
- Don't share personal items that might have blood on them
- Follow routine barrier precautions and safely handle needles and other sharps

Philippines: Diseases of Operational Importance

- Leptospirosis
- Schistosomiasis



COUNTERMEASURES (Mission permitting)

- Avoid contact with standing water
- Towel dry vigorously after exposure
- Take all medications as directed

Philippines: Diseases of Operational Importance

- Sexually Transmitted and/or Bloodborne Diseases
 - Gonorrhea
 - Symptoms
 - Men – Burning sensation when urinating or white, yellow or green discharge
 - Women – no symptoms to burning when urinating to increased vaginal discharge
 - Chlamydia
 - Symptoms
 - None to discharge and/or pain when urinating
 - Prevention
 - Abstinence or latex condoms